capacity of the field winding 111, its electrical insulation and the rotor core 2120 (i.e., thermal capacity of the rotor) and thermal capacity Q of the field winding 111 when engine starting is performed.

Page 33, line 24 through page 35, line 1, delete current paragraph and insert therefor:

Thermal specifications for the rotor of the synchronous machine, with this embodiment, are determined as follows. The maximum allowable temperature for the rotor will be designated as Tmax, the maximum temperature that can be attained by the rotor during electric power generation operation as Tgmax, and thermal capacity of the rotor as Q. Thermal capacity of the rotor is substantially determined as the sum of the specific heat of the rotor core material multiplied by the rotor mass and the specific heat of the material of the field winding multiplied by its mass. In addition, if the synchronous machine is of a type which also incorporates permanent magnets as described for the preceding embodiment, then thermal capacity of the permanent magnets must also be added, to obtain thermal capacity Q of the rotor. In addition, the time interval during which field current is passed while engine starting is performed will be designated as T, the electrical resistance of the field winding as r, and the field current as i. In that case, with this embodiment, the maximum value of the field current i (in practice, the maximum field current that is supplied during engine starting operation, i.e., with the duty ratio used in switching ON/OFF control of the field current as described above being at its highest value, such as 100%) is controlled, and the values of Q, r, T and Tgmax respectively predetermined, such that the temperature value:

$$(Tgmax + (i^2 . r . T) /Q)$$

is lower than the temperature Tmax.

Page 35, lines 2-4, delete current paragraph and insert therefor:

Preferably it is ensured that (Tgmax + (i^2 . r . T) /Q) is kept lower than the temperature Tmax by an amount which is within the range 20~40°C.

Page 36, lines 1-25, delete current paragraph and insert therefor:

With an alternative form of the second embodiment therefore, during a predetermined time interval that extends up to the point at which starting of the engine is commenced (i.e., the ignition switch of the vehicle is actuated to thereby supply an "engine start" command signal to the control circuit 400), the average field current, the average armature current and the ambient temperature, are measured, and these measured values are used in combination to estimate the temperature (designated as Tr) which the rotor will have attained at the point when engine starting is to begin. The aforementioned maximum value of duty ratio DUTYmax that will be applied in ON/OFF switching control of the transistor 301 as described hereinabove to control the level of field current during electric generation operation is then obtained from an internal memory map (not shown in the drawings), based on the estimated temperature value Tr. For example, the higher the value of rotor temperature Tr, the greater is the extent to which the duty ratio DUTYmax must be reduced, and conversely the lower the value of Tr the greater can be the DUTYmax. In that way, the maximum amount of electric power can be generated by the synchronous machine, consistent with the permissible range of values of rotor temperature Tr. This operation is illustrated in the flow diagram of Fig. 12.